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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,117	11/30/2001	James G. Shelnut	50986	4443

7590

09/09/2004

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EXAMINER

VIJAYAKUMAR, KALLAMBELLA M

ART UNIT PAPER NUMBER

1751

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

A-9

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/998,117	SHEL NUT ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kallambella Vijayakumar	1751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-9,11-16,19 and 20 is/are rejected.
- 7) ☒ Claim(s) 2,10,17 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>06/21/2004</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

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*Detailed Action*

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- Applicant's arguments, filed, with respect to the objection on specification have been fully considered and are persuasive. Therefore, the Objection is withdrawn.
- The information disclosure statement (IDS) submitted on 06/21/2004 has been considered and acknowledged by the examiner.
- Applicant's arguments filed 06/21/2004 have been fully considered but they are not persuasive for the following reasons and the following rejection has been maintained:

*Claim Rejections - 35 USC § 102*

*Claim Rejections - 35 USC § 103*

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- Claims 1, 3-9, 11-16, 19-20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sonnenberg et al (US Patent 5,800,739).

Sonnenberg et al disclose conductive dispersions comprising of polymers, carbon/graphite, metal sulfides and stabilizers (Abstract, Col-3, Line-66 to Col-6, Line-31), method of making the dispersion (Col-6, Line-32 to Col-7, 43) and manufacture of printed circuit board (Col-7, Line-43 to Col-9, Line-9). Sonnenberg et al further disclose making of an aqueous colloidal dispersion of para-toluene sulfonic acid doped polypyrrole stabilized by Igepal CO990 starting from pyrrole and sodium persulfate, and making of a printed circuit board by plating of a double sided through hole board (Col-10, Examples: 6 and 7). Sonnenberg et al further teach the metal-sulfide/graphite/polymer dispersions stabilized by

many preferred stabilizers such as Avanol, Pluronic, Rhodasurf and incorporation of additives in the formulation which are the same components being used and/or claimed by the applicants; and forming conductive coatings from Graphite-polymer dispersions (Col-11, Examples 10-12, Col-4, Line-36 to Col-5, Line-39), whereby the disclosure by Sonnenberg would meet the limitations of the above referenced instant claims. Doped Polypyrrole would meet the limitation of a polymer in claims 1, 3, 9 and 16. PdS/Carbon/Graphite would meet the limitation of conductive colloidal particles in claims 4 and 11. Para-toluene sulfonic acid would meet the limitation of the dopant in claims 1, 9 and 16. Igepal, Avanol, Pluronic, Rhodasurf and the listed stabilizers would meet the limitation of claims 5-8 and 12-15. Sodium persulfate would meet the limitation of an oxidant in claim 12. All the limitations of the instant claims are met.

The reference is anticipatory.

In the alternative that the disclosure by Sonnenberg et al be insufficient to arrive at the limitations of the instant claims by the applicants, it would have been obvious to one of ordinary skill in the art at the time of invention to make modifications to the polymer dispersion compositions and/or method of making these compositions of Sonnenberg et al by choosing other polymers/dopants/ surfactants/carbon and vary the preparative parameters for making the dispersions, because Sonnenberg et al teach the benefits of such incorporations and modifications in stabilizing the colloidal dispersions of conductive polymers and their benefits in attaining stability and quality of coating PCB's, and further use the compositions to plate PCB's of various configurations with the expectation of reasonable success in obviously arriving at the limitations of the instant claims by the applicants.

Applicants argue that p-toluenesulfonic acid would not meet the limitations of the instant claims by the applicants and it not persuasive. The claim limitation requires a dopant with a composition R-SO<sub>3</sub>-R', wherein Hydrogen for R' and toluene for an aryl radical per the limitations of the instant claims would meet the limitations of the instant claims.

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*Allowable Subject Matter*

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- Claims 2, 10, and 17-18 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Prior art of record do not disclose or fairly suggestive of a composition comprising of the specific dopant in the polymer colloidal composition, a method of making such a composition and a method of plating the surface of a substrate using such a formulation meeting the limitations of the instant claims by the applicants.

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*Conclusion*

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**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

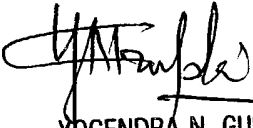
the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kallambella Vijayakumar whose telephone number is 571-272-1324. The examiner can normally be reached on M-Th, 07.00 - 16.30 hrs, Alt. Fri: 07.00-15.30 hrs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kmv  
September 04, 2004.

  
YOGENDRA N. GUPTA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700